Attorney's Docket No.: 12938-003002

Applicant: Hsuan-Yin Lan-Hargest et a...

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## In the claims:

Please amend the claims as follows:

## 1. (Currently Amended) A compound of formula (I):

wherein

A is a cyclic moiety selected from the group consisting of  $C_{3-14}$  cycloalkyl, 3-14 membered heterocycloalkyl,  $C_{4-14}$  cycloalkenyl, 3-14 membered heterocycloalkenyl, aryl, and heteroaryl; the cyclic moiety being optionally substituted with alkyl, alkenyl, alkynyl, alkoxy, hydroxyl, hydroxylalkyl, halo, haloalkyl, amino, alkylcarbonyloxy, alkyloxycarbonyl, alkylcarbonyl, alkylsulfonylamino, aminosulfonyl, or alkylsulfonyl;

each of X<sup>1</sup> and X<sup>2</sup>, independently, is O or S;

each of  $Y^1$  and  $Y^2$ , independently, is -CH<sub>2</sub>-, -O-, -S-, -N( $R^a$ )-, -N( $R^a$ )--C(O)-O-, -O-C(O)-N( $R^a$ )-, -N( $R^a$ )-C(O)-N( $R^b$ )-, -O-C(O)-O-, or a bond; each of  $R^a$  and  $R^b$ , independently, being hydrogen, alkyl, alkenyl, alkoxy, hydroxylalkyl, hydroxyl, or haloalkyl;

L is a straight  $C_{3-12}$  hydrocarbon chain optionally containing at least one double bond, at least one triple bond, or at least one double bond and one triple bond; said hydrocarbon chain being optionally substituted with  $C_{1-4}$  alkyl,  $C_{2-4}$  alkenyl,  $C_{2-4}$  alkynyl,  $C_{1-4}$  alkoxy, hydroxyl, halo, amino, nitro, cyano,  $C_{3-5}$  cycloalkyl, 3-5 membered heterocycloalkyl, monocyclic aryl, 5-6 membered heteroaryl,  $C_{1-4}$  alkylcarbonyloxy,  $C_{1-4}$  alkyloxycarbonyl,  $C_{1-4}$  alkylcarbonyl, or formyl; and further being optionally interrupted by -O-, -N( $R^c$ )-, -N( $R^c$ )-C(O)-O-, -O-C(O)-N( $R^d$ )-, or -O-C(O)-O-; each of  $R^c$  and  $R^d$ , independently, being hydrogen,



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alkyl, alkenyl, alkynyl, alkoxy, hydroxylalkyl, hydroxyl, or haloalkyl; provided that when L contains two or more double bonds, the double bonds are not adjacent to each other; that when L contains three double bonds, said hydrocarbon chain is further substituted with C<sub>1-4</sub> alkyl, C<sub>2-4</sub> alkenyl, C<sub>2-4</sub> alkynyl, C<sub>1-4</sub> alkoxy, hydroxyl, halo, amino, nitro, cyano, C<sub>3-5</sub> cycloalkyl, 3-5 membered heterocycloalkyl, monocyclic aryl, 5-6 membered heteroaryl, C<sub>1-4</sub> alkylcarbonyloxy, C<sub>1-4</sub> alkyloxycarbonyl, C<sub>1-4</sub> alkylcarbonyl, or formyl; and further provided that when L contains zero double bonds, one double bond, or two conjugated double bonds and A is C<sub>1-4</sub>-alkyl substituted phenyl or unsubstituted phenyl aryl, Y1 is not a bond or CH2, and Y2 is not a bond or  $CH_2$ ;

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or a salt thereof.

- (Original) The compound of claim 1, wherein  $X^1$  is O. 2.
- (Original) The compound of claim 1, wherein  $X^2$  is O. 3.
- (Original) The compound of claim 1, where each of  $X^1$  and  $X^2$  is O. 4.
- (Original) The compound of claim 1, wherein each of Y<sup>1</sup> and Y<sup>2</sup>, independently, is 5. -CH<sub>2</sub>, -O-, -N( $\mathbb{R}^{a}$ )-, or a bond.
- (Canceled) **∕**6.

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7. (Original) The compound of claim 1, wherein L is an unsaturated  $C_{4-8}$  hydrocarbon chain containing at least one double bond and no triple bond, said unsaturated hydrocarbon chain being optionally substituted with  $C_{1-2}$  alkyl,  $C_{1-2}$  alkoxy, hydroxyl, -NH<sub>2</sub>, -NH( $C_{1-2}$  alkyl), or -N( $C_{1-2}$  alkyl)<sub>2</sub>, or -N( $C_{1-2}$  alkyl)<sub>2</sub>.

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- 8. (Original) The compound of claim 7, wherein the double bond is in trans configuration.
- 9-11. (Canceled)
- 12. (Original) The compound of claim 1, wherein A is phenyl, naphthyl, indanyl, or tetrahydronaphthyl.
- 13. (Previously Amended) The compound of claim 1, wherein A is phenyl optionally substituted with alkyl, alkenyl, hydroxyl, hydroxylalkyl, halo, haloalkyl, or amino.
- 14-15. (Canceled)
- 16. (Original) The compound of claim 13, wherein L is an unsaturated  $C_{4-8}$  hydrocarbon chain containing only double bonds in trans configuration, said unsaturated hydrocarbon chain being optionally substituted with  $C_{1-2}$  alkyl,  $C_{1-2}$  alkoxy, hydroxyl, -NH<sub>2</sub>, -NH( $C_{1-2}$  alkyl), or -N( $C_{1-2}$  alkyl)<sub>2</sub>.

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17. (Original) The compound of claim 16, wherein  $X^1$  is O;  $X^2$  is O; and each of  $Y^1$  and  $Y^2$ , independently, is -CH<sub>2</sub>-, -O-, -N( $\mathbb{R}^a$ )-, or a bond.

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22. (Currently Amended): A compound of formula (I):

$$A \longrightarrow Y^1 \longrightarrow L \longrightarrow Y^2 \longrightarrow C \longrightarrow X^2 \longrightarrow H \qquad (I)$$

wherein

A is a cyclic moiety selected from the group consisting of aryl and heteroaryl; the cyclic moiety being optionally substituted with alkyl, alkenyl, alkynyl, alkoxy, hydroxylalkyl, or amino;

each of X1 and X2, independently, is O or S;

each of  $Y^1$  and  $Y^2$ , independently, is -CH<sub>2</sub>-, -O-, -S-, -N(R<sup>a</sup>)-, -N(R<sup>a</sup>)-C(O)-O-, -O-C(O)-N(R<sup>a</sup>)-, -N(R<sup>a</sup>)-C(O)-N(R<sup>b</sup>)-, -O-C(O)-O-, or a bond; each of R<sup>a</sup> and R<sup>b</sup>, independently, being hydrogen, alkyl, hydroxylalkyl, or haloalkyl;

L is a straight  $C_{3-12}$  hydrocarbon chain optionally containing at least one double bond, at least one triple bond, or at least one double bond and one triple bond; said hydrocarbon chain being optionally substituted with  $C_{1-4}$  alkyl,  $C_{2-4}$  alkenyl,  $C_{2-4}$  alkynyl,  $C_{1-4}$  alkoxy, or amino, and further optionally interrupted by -O- or -N( $R^c$ )-, where  $R^c$  is hydrogen, alkyl, hydroxylalkyl, or haloalkyl; provided that when L contains two or more double bonds, the double bonds are not

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adjacent to each other; that when L contains three double bonds, said hydrocarbon chain is substituted with C<sub>1-4</sub> alkyl, C<sub>2-4</sub> alkenyl, C<sub>2-4</sub> alkynyl, C<sub>1-4</sub> alkoxy, or amino; and further provided that when L contains zero double bonds, one double bond, or two conjugated double bonds and A is  $C_{1-4}$  alkyl phenyl,  $C_{1-4}$  alkoxy phenyl, or unsubstituted phenyl aryl,  $Y^1$  is not a bond or  $CH_2$ , and Y<sup>2</sup> is not a bond or CH<sub>2</sub>;

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or a salt thereof.

23-24. (Canceled)

- 25. (Original) The compound of claim 22, wherein L is an unsaturated C<sub>4-8</sub> hydrocarbon chain containing only double bonds in trans configuration, said unsaturated hydrocarbon chain being optionally substituted with  $C_{1-2}$  alkyl,  $C_{1-2}$  alkoxy, hydroxyl, -NH<sub>2</sub>, -NH( $C_{1-2}$  alkyl), or  $-N(C_{1-2} \text{ alkyl})_2.$
- (Original) The compound of claim 25, where in  $X^1$  is O;  $X^2$  is O; and each of  $Y^1$  and  $Y^2$ , 26. independently, is -CH<sub>2</sub>-, -O-, N(R<sup>a</sup>)-, or a bond.

27-79. (Canceled)

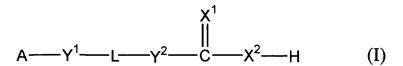
80. (Previously Added) A pharmaceutical composition, comprising an effective amount of a compound of formula (I):

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wherein

A is a cyclic moiety selected from the group consisting of C<sub>3-14</sub> cycloalkyl, 3-14 membered heterocycloalkyl, C<sub>4-14</sub> cycloalkenyl, 3-14 membered heterocycloalkenyl, aryl, and heteroaryl; the cyclic moiety being optionally substituted with alkyl, alkenyl, alkynyl, alkoxy, hydroxyl, hydroxylalkyl, halo, haloalkyl, amino, alkylcarbonyloxy, alkyloxycarbonyl, alkylcarbonyl, alkylsulfonylamino, aminosulfonyl, or alkylsulfonyl;

each of X<sup>1</sup> and X<sup>2</sup>, independently, is O or S:

each of  $Y^1$  and  $Y^2$ , independently, is -CH<sub>2</sub>-, -O-, -S-, -N( $R^a$ )-, -N( $R^a$ )-C(O)-O-,  $-O-C(O)-N(R^a)-$ ,  $-N(R^a)-C(O)-N(R^b)-$ , -O-C(O)-O-, or a bond; each of  $R^a$  and  $R^b$ , independently. being hydrogen, alkyl, alkenyl, alkynyl, alkoxy, hydroxylalkyl, hydroxyl, or haloalkyl;

L is a straight C<sub>3-12</sub> hydrocarbon chain optionally containing at least one double bond, at least one triple bond, or at least one double bond and one triple bond; said hydrocarbon chain being optionally substituted with C<sub>1-4</sub> alkyl, C<sub>2-4</sub> alkenyl, C<sub>2-4</sub> alkynyl, C<sub>1-4</sub> alkoxy, hydroxyl, halo, amino, nitro, cyano, C<sub>3-5</sub> cycloalkyl, 3-5 membered heterocycloalkyl, monocyclic aryl, 5-6 membered heteroaryl, C<sub>1-4</sub> alkylcarbonyloxy, C<sub>1-4</sub> alkylcarbonyl, C<sub>1-4</sub> alkylcarbonyl, or formyl; and further being optionally interrupted by -O-, -N(R<sup>c</sup>)-, -N(R<sup>c</sup>)-C(O)-O-, -O-C(O)-N(R<sup>c</sup>)-, -N(R<sup>c</sup>)-C(O)-N(R<sup>d</sup>)-, or -O-C(O)-O-; each of R<sup>c</sup> and R<sup>d</sup>, independently, being hydrogen, alkyl, alkenyl, alkynyl, alkoxy, hydroxylalkyl, hydroxyl, or haloalkyl; or a salt thereof; and

a pharmaceutically acceptable carrier.

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- 81. (New) The compound of claim 80, wherein  $X^1$  is O.
- 82. (New) The compound of claim 80, wherein  $X^2$  is O.
- 83. (New) The compound of claim 80, where each of  $X^1$  and  $X^2$  is O.
- 84. (New) The compound of claim 80, wherein each of  $Y^1$  and  $Y^2$ , independently, is -CH<sub>2</sub>, -O-, -N( $\mathbb{R}^a$ )-, or a bond.
- 85. (New) The compound of claim 80, wherein L is an unsaturated  $C_{4-8}$  hydrocarbon chain containing at least one double bond and no triple bond, said unsaturated hydrocarbon chain being optionally substituted with  $C_{1-2}$  alkyl,  $C_{1-2}$  alkoxy, hydroxyl, -NH<sub>2</sub>, -NH( $C_{1-2}$  alkyl), or -N( $C_{1-2}$  alkyl)<sub>2</sub>, or -N( $C_{1-2}$  alkyl)<sub>2</sub>.
- 86. (New) The compound of claim 85, wherein the double bond is in trans configuration.
- 87. (New) The compound of claim 1, wherein A is phenyl, naphthyl, indanyl, or tetrahydronaphthyl.
- 88. (New) The compound of claim 80, wherein A is phenyl optionally substituted with alkyl, alkenyl, hydroxyl, hydroxylalkyl, halo, haloalkyl, or amino.

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- 89. (New) The compound of claim 80, wherein L is an unsaturated  $C_{4-8}$  hydrocarbon chain containing only double bonds in trans configuration, said unsaturated hydrocarbon chain being optionally substituted with  $C_{1-2}$  alkyl,  $C_{1-2}$  alkoxy, hydroxyl, -NH<sub>2</sub>, -NH( $C_{1-2}$  alkyl), or -N( $C_{1-2}$  alkyl)<sub>2</sub>.
- 90. (New) The compound of claim 89, wherein  $X^1$  is O;  $X^2$  is O; and each of  $Y^1$  and  $Y^2$ , independently, is -CH<sub>2</sub>-, -O-, -N( $\mathbb{R}^a$ )-, or a bond.
- 91. (New) A compound of formula (I):

$$A \longrightarrow Y^{1} \longrightarrow L \longrightarrow Y^{2} \longrightarrow C \longrightarrow X^{2} \longrightarrow H \qquad (I)$$

wherein

A is a cyclic moiety selected from the group consisting of C<sub>3-14</sub> cycloalkyl, 3-14 membered heterocycloalkyl, C<sub>4-14</sub> cycloalkenyl, 3-14 membered heterocycloalkenyl, aryl, and heteroaryl; the cyclic moiety being optionally substituted with alkyl, alkenyl, alkynyl, alkoxy, hydroxyl, hydroxylalkyl, halo, haloalkyl, amino, alkylcarbonyloxy, alkyloxycarbonyl, alkylcarbonyl, alkylsulfonylamino, aminosulfonyl, or alkylsulfonyl;

each of X<sup>1</sup> and X<sup>2</sup>, independently, is O or S;

Y<sup>1</sup> is -CH<sub>2</sub>-, -S-, -N(R<sup>a</sup>)-, -N(R<sup>a</sup>)-C(O)-O-, -O-C(O)-N(R<sup>a</sup>)-, -N(R<sup>a</sup>)-C(O)-N(R<sup>b</sup>)-, -O-C(O)-O-, or a bond; each of R<sup>a</sup> and R<sup>b</sup>, independently, being hydrogen, alkyl, alkenyl, alkynyl, alkoxy, hydroxylalkyl, hydroxyl, or haloalkyl;

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 $Y^2$  is -CH<sub>2</sub>-, -O-, -S-, -N(R<sup>a</sup>)-, -N(R<sup>a</sup>)-C(O)-O-, -O-C(O)-N(R<sup>a</sup>)-, -N(R<sup>a</sup>)-C(O)-N(R<sup>b</sup>)-, -O-C(O)-O-, or a bond;

L is a straight  $C_{3-6}$  hydrocarbon chain containing at least one double bond, at least one triple bond, or at least one double bond and one triple bond; said hydrocarbon chain being substituted with  $C_{1-4}$  alkyl,  $C_{2-4}$  alkenyl,  $C_{2-4}$  alkynyl,  $C_{1-4}$  alkoxy, halo, amino, nitro, cyano,  $C_{3-5}$  cycloalkyl, 3-5 membered heterocycloalkyl, monocyclic aryl, 5-6 membered heteroaryl,  $C_{1-4}$  alkylcarbonyloxy,  $C_{1-4}$  alkyloxycarbonyl,  $C_{1-4}$  alkylcarbonyl, or formyl; and further being optionally interrupted by -O-, -N( $R^c$ )-, -N( $R^c$ )-C(O)-O-, -O-C(O)-N( $R^c$ )-, -N( $R^c$ )-C(O)-N( $R^d$ )-, or -O-C(O)-O-; each of  $R^c$  and  $R^d$ , independently, being hydrogen, alkyl, alkenyl, alkynyl, alkoxy, hydroxylalkyl, hydroxyl, or haloalkyl;

or a salt thereof.

- 92. (New) The compound of claim 91, wherein  $X^1$  is O.
- 93. (New) The compound of claim 91, wherein  $X^2$  is O.
- 94. (New) The compound of claim 91, wherein each of  $X^1$  and  $X^2$  is O.
- 95. (New) The compound of claim 91, wherein each of  $Y^1$  and  $Y^2$ , independently, is -CH<sub>2</sub>-, -N( $\mathbb{R}^a$ )-, or a bond.

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96. (New) The compound of claim 91, wherein L is an unsaturated C<sub>4-6</sub> hydrocarbon chain containing at least one double bond and no triple bond, said unsaturated hydrocarbon chain being substituted with C<sub>1-2</sub> alkyl, C<sub>1-2</sub> alkoxy, hydroxyl, -NH<sub>2</sub>, -NH(C<sub>1-2</sub> alkyl), -N(C<sub>1-2</sub> alkyl)<sub>2</sub>, -N(C<sub>1-2</sub> alkyl)<sub>2</sub>, halo, or monocyclic aryl.

- 97. (New) The compound of claim 96, wherein said double bond is in trans configuration.
- 98. (New) The compound of claim 91, wherein A is phenyl, naphthyl, indanyl, or tetrahydronapthyl.
- 99. (New) The compound of claim 91, wherein A is phenyl optionally substituted with alkyl, alkenyl, hydroxyl, hydroxylalkyl, halo, haloalkyl, or amino.
- 100. (New) The compound of claim 91, wherein L is an unsaturated  $C_{4-6}$  hydrocarbon chain containing double bonds only in trans configuration, said unsaturated hydrocarbon chain being substituted with  $C_{1-2}$  alkyl,  $C_{1-2}$  alkoxy, hydroxyl, -NH<sub>2</sub>, -NH( $C_{1-2}$  alkyl), -N( $C_{1-2}$  alkyl)<sub>2</sub>, halo, or monocyclic aryl.
- 101. (New) The compound of claim 100, wherein  $X^1$  is O;  $X^2$  is O; and each of  $Y^1$  and  $Y^2$ , independently, is -CH<sub>2</sub>-, -N( $\mathbb{R}^a$ )-, or a bond.